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*The
Connecticut
Agricultural
Experiment
Station,
New Haven*

Inspection of
Commercial
Fertilizers 1992

BY MARY JANE INCORVIA MATTINA

*Bulletin 910
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From January 1, 1992 to December 31, 1992 eighty-four samples of fertilizer were collected by inspectors of the Connecticut Department of Agriculture. They were examined by the Analytical Chemistry Department of the Connecticut Agricultural Experiment Station for compliance of the label guarantees with State of Connecticut Regulations. Included in this Bulletin are the results of the analyses of the macronutrients, nitrogen, phosphoric acid, and potash, for these samples. Additional analyses of fertilizers performed for farmers and other Station Departments are not included in this Bulletin

The results of analyses of the products from thirty-four different manufacturers are presented in Table 1. A sample is "deficient" if the analytical result for a parameter is below the guaranteed value by more than the permissible percentage established by the Association of American Feed Control Officials. Of the 84 samples examined fifteen or 17.9% were found to be deficient in one or more parameters. Nine samples or 10.7% were found to be low in nitrogen, five samples or 5.9% were low in phosphoric acid, and six samples or 7.1% were low in potash.

Table 2 shows the total tonnage of multiple nutrient fertilizers sold in Connecticut for the period indicated for selected grades. Table 3 lists the tonnage of some fertilizer materials sold in Connecticut for the same period.

The samples were collected by Melanie Attwater under the direction of Alton VanDyke, the Fertilizer Control Official for the Department of Agriculture. The analyses were performed by Craig Musante and Mamie Pyles under the direction of Dr. David Stilwell.

Mary Jane Incorvia Mattina
Chief, Analytical Chemistry

Table 1. Analysis of individual fertilizer samples.

	N		P2O5		K2O	
	Guar%	Found%	Guar%	Found%	Guar%	Found%
A. H. HOFFMAN, INC.						
Hoffman Vegetable Food	5	5.1	10	10.9	5	5.8
AGWAY						
Agway	23	22.4	12	14.7	18	16.7-
Agway	21	21.1	8	9.9	24	23.6
Agway	15	15.2	15	17.8	15	17.1
Agway	22	22.0	10	14.3	18	19.2
Agway	18	16.4 -	18	18.9	18	17.7
Agway	0	0.5	15	18.7	30	30.4
Agway	24	21.5	12	11.4	18	20.6
Agway Sol-U-Green with Micronutrients	20	23.0	20	23.2	20	19.6
Agway	24	27.5	12	12.1	18	14.7-
Agway	24	18.6-	12	10.0-	18	25.6
Agway	15	12.4-	15	17.5	15	14.2
ALLJACK & CO.						
Super K-Gro Plant Food	15	15.8	30	29.5	15	17.9
CADWELL & JONES						
Cadwell & Jones	10	13.5	10	10.0	10	12.0
Cadwell & Jones	10	11.1	20	22.1	20	20.0
Cadwell & Jones	5	5.3	10	8.5-	15	14.9
Cadwell & Jones Surge (Super)	20	20.8	10	8.9-	10	10.4
Cadwell & Jones	10	10.0	10	8.9-	10	8.3-
CELEX CORP.						
Super K-Gro House Plant Food	5	5.3	10	10.4	5	5.3
CHEVRON CHEMICAL CO.						
Ortho Vegetable Food	8	9.9	10	9.7	8	8.0
Ortho Plant Starter-Up Start	5	7.1	15	18.2	5	4.8
Ortho House Plant Food	5	5.1	10	10.3	5	5.3
CLINTON NURSERY PRODUCTS, INC.						
New Era Plant Food Sticks Flowering	6	6.8	12	15.6	6	7.4
New Era Regular Plant Food Sticks	12	12.8	6	8.7	6	7.6
New Era Plant Food	8	9.0	8	8.8	8	9.4
New Era Plant Food	4	4.5	10	11.4	10	11.6
CROP PRODUCTION SERVICES						
Village Green	10	9.2-	10	7.7-	10	9.6
Village Green	10	8.7-	6	6.4	4	3.6
CPS-Kogut Xmas Tree	17	13.9-	0		14	17.7
Crop Product Services	15	15.1	0		12	11.8
Crop Product Services-Xmas Tree	18	17.3	11	11.2	17	16.7
Village Green Professional Turf Food	28	28.1	5	5.7	11	12.1
Village Green Fert.	10	9.4	10	11.7	10	9.7
Village Green Fertilizer.	10	8.3-	6	7.0	4	2.7-
Village Green	5	5.4	10	9.6	10	9.5

Table 1. Analysis of individual fertilizer samples (continued).

	N		P ₂ O ₅		K ₂ O	
	Guar%	Found%	Guar%	Found%	Guar%	Found%
CPS	10	10.2	20	20.5	20	19.5
CPS	20	19.6	10	10.0	10	9.8
DOMESTIC FERTILIZER, INC.						
Super K-Gro Houseplant Food Sticks.	13	13.6	4	7.3	5	7.2
FRANK'S NURSERY & CRAFTS						
Frank's Lawn Food	28	28.1	4	5.1	8	7.8
Frank's Lawn Fertilizer	32	32.9	4	4.0	8	3.2-
Frank's All Purpose Lawn & Garden Food	12	10.1-	12	13.2	12	9.8-
Frank's All Purpose Natural Organic Fertilizer	3	3.7	4	9.2	3	4.5
GARDENA, INC./DIV. OF GALE GROUP						
Happy Garden Fert. for Vegetables	14	13.9	8	9.3	6	14.2
GRACE SIERRA						
Osmocote Vegetable & Bedding Plant Food	14	14.5	14	15.0	14	14.0
Peters Professional Acid Greening	17	16.1-	6	7.9	6	8.3
Peters Conc. Liquid Plant Food	5	5.6	10	10.8	5	5.7
Peters Professional All Purpose	20	19.9	20	20.4	20	19.0
Peters Professional Houseplant Food	15	16.6	30	31.6	15	15.2
GUBLER NURSERY						
Gubler Pro Blend Orchid Food	24.1	8.9		14.2		
HOLLAND BULB PRODUCTS						
Holland Bulb Booster	9	9.7	9	9.7	6	5.6
HY-TROUS/FLASH SALES, INC.						
Hy-Trous Liquid Plant Food w/micronutrients	5	5.4	10	10.7	5	5.1
HYPONEX CORP.						
Hyponex Effervescent Plant Food Tablets	5	5.7	3	5.0	9	9.3
JRM CHEMICAL DIVISION						
Soil Moist Plus 5-5-5 Spikes	5	12.0	5	4.4	5	3.5
LEBANON CHEMICAL CORP.						
Greenview Green Power The Longlasting Lawn Fert.	30	30.2	4	5.3	4	8.7
Greenview Shrub Mate	12	12.7	10	10.0	10	9.7
Greenview Winter Green	10	10.2	16	17.9	10	16.5
LUSTER LEAF PRODUCTS, INC.						
Luster Leaf Rapid Feed Phosphorus	44	44.6.				
NATIONAL PRODUCTS DIV., INC.						
Greenaid Plant Food	8	8.9	8	8.8	8	9.3
Green Thumb Flowering Plant Food	4	4.5	10	10.6	10	11.1

Table 1. Analysis of individual fertilizer samples (continued).

	N		P ₂ O ₅		K ₂ O	
	Guar%	Found%	Guar%	Found%	Guar%	Found%
NEW PLANT LIFE						
New Plant Life Fern & Ivy Plant Food	8	8.3	7	6.9	5	4.7
New Plant Life Cactus & Succulent Food	1	1.5	2	3.0	2	2.8
O. M. SCOTT & SONS CO.						
Scott's Next Generat. All Nat. Flower, Shrub & Tree Fd.	5	6.3	5	8.4	5	4.3
OFFSHORE VENTURES, INC.						
Squanto's Secret Plant Food	2	2.2	4	5.0	2	2.2
OPTIFLORA, INC.						
Optimara Violet Food	14	14.0	12	14.0	14	14.2
Optimara Plant Food All Purpose-Houseplants	20	21.2	5	6.7	10	9.7
PLANTABBS CORP.						
Plantabbs African Violet Plant Food	11	14.0	15	15.0	20	19.2
RINGER CORP.						
Ringer Tomato Restore	6	6.8	8	7.9	4	5.5
ROSS DANIELS, INC.						
Ross Sprinkle Feeder Flower & Garden Plant Fd. Cart.	12	13.5	24	25.6	12	11.7
Ross Gro-Stakes for Fruit & Ornam. Trees & Shrubs	8	12.5	16	15.3	16	15.8
Ross Gro-Stakes Fert. for Trees & Shrubs	16	18.0	10	9.6	9	8.9
SCHULTZ CO.						
Schultz Instant Liquid Plant Food	10	11.3	15	16.4	10	10.4
SIERRA CHEMICAL CO.						
Osmocote Plant Food for Potting Mixes Plus Minors	17	17.1	6	8.1	10	10.4
STERN'S MIRACLE GRO PRODUCTS, INC.						
Stern's Miracle-Gro for Roses	18	18.9	24	24.4	16	17.8
Stern's Liquid Miracle-Gro Houseplant Food	8	8.3	7	7.8	6	6.2
Stern's Miracle-Gro Plant Food Spikes	6	6.5	12	15.0	6	6.2
SUDBURY LAWN & GARDEN PRODUCTS/DIV. OF FARNAM CO., INC.						
Granny's Bloomers for African Violets	6	7.6	5	5.9		
Granny's Jungle Juice	2	1.9	5	5.7	4	4.7
THE ANDERSONS						
Green Thumb Tomato & Vegetable Food	8	8.0	10	11.2	8	7.6
Green Thumb Evergreen Tree & Shrub Food	14	15.8	7	9.7	7	7.0
THE ESPOMA CO.						
Espoma Plant-tone	4	4.7	3	4.6	2	3.4
WEATHERLY CONSUMER PRODUCTS						
Jobe's All Natural Tomato Fertilizer Stakes	4	7.1	8	10.7	8	7.5
Jobe's Fertilizer Spikes for Prize Tomatoes	8	8.6	24	23.3	8	7.9
Jobe's Plant Food Spikes for Beautiful Flowering Plants	10	11.2	10	12.1	4	5.0

Table 2. Multiple Nutrient Fertilizers Shipped in Connecticut from July 1, 1991 through June 30, 1992¹

Grade	Tons	Grade	Tons
0-10-40	27.2	16-8-8	23.1
0-15-30	22.8	18-6-12	29.8
1-1-1	29.6	18-46-0	19.0
2-2-1	121.2	19-3-4	22.2
2.2-27-0	41.9	19-3-12	183.1
3-4-3	19.1	19-19-19	310
4-5-2	21	20-3-3	212
4-5-4	94	20-3-5	83.4
4-6-4	771	20-3-10	18
5-3-4	57.2	20-4-10	56
5-10-5	725.4	20-5-10	263
5-10-10	486	20-8-8	27
5-10-15	36	20-10-10	431
6-1-3	21.8	20-10-20	27.1
6-2-2	536	20-20-10	39
6.4-2-1	145	20-20-20	87.8
7-7-7	14.8	22-0-22	32.5
8-2-1	13.5	22-3-6	13.9
8-4-4	20.8	22-4-8	86.1
8-8-8	107	24-3-5	15
8-12-4	43	24-3-7	89.8
8-16-16	31.4	25-3-3	122.5
9-17-9	137.5	25-3-5	153.4
10-5-10	56.2	25-3-6	15.8
10-6-4	613	25-3-8	63.9
10-10-10	2040	25-3-9	67
10-18-10	112.4	25-4-8	22.7
10-20-10	199	25-5-5	29
10-20-15	104.4	25-5-15	12.9
10-20-20	234.3	26-3-3	29.4
11-23-10	26.5	26-4-6	129.1
12-4-8	28.2	27-3-3	39.9
12-12-12	17.1	28-3-3	699
12-24-12	15.2	28-3-4	231.4
13-13-13	19.2	28-3-10	216.1
13-25-12	67.2	28-4-8	71.8
14-3-6	49.2	28-4-12	74.8
14-14-14	178.8	28-5-11	41.3
14-22-6	29.5	29-3-4	880.2
15-0-15	10.2	30-3-3	102.6
15-2-3	17.2	30-10-10	21.3
15-3-5	37.8	32-4-8	119.4
15-8-12	386.3	32-5-7	43
15-10-10	88		
15-15-15	504	tonnage of above grades	15763
15-30-15	131.8	miscellaneous	18365
16-4-8	157.9	total tonnage	34128

¹ To be included in the table a grade must have been manufactured by at least two manufacturers with a total tonnage for all manufacturers of greater than 10 tons.

Table 3. Tonnages of Selected Fertilizer Materials Sold in Connecticut from July 1, 1991 to June 30, 1992

CHEMICAL NITROGEN		ORGANICS	
ammonium nitrate	107	blood, dried	5
calcium nitrate	131	compost	121
nitric acid	24.4	cottonseed meal	145
urea	1213	manure	2027
		sewage sludge, activated	535
PHOSPHATES		SECONDARY AND MICRONUTRIENTS	
diammonium phosphate	16	aluminum sulfate	2
bone meal, steamed	41.9	borax	1
superphosphate, normal	31	ferrous sulfate	1
superphosphate, triple	68.5	iron chelate	2
phosphate, not identified	10	magnesia	2
		gypsum	114
POTASH		magnesium sulfate	1
muriate of potash, 60%	349.8	no code	7
potassium-magnesium sulfate	20.1		
potassium sulfate	33		
		LIMING MATERIALS	
		limestone	319



The Connecticut Agricultural Experiment Station,

founded in 1875, is the first experiment station in America. It is chartered by the General Assembly to make scientific inquiries and experiments regarding plants and their pests, insects, soil and water, and to perform analyses for State agencies. The laboratories of the Station are in New Haven and Windsor; its Lockwood Farm is in Hamden. Single copies of bulletins are available free upon request to Publications; Box 1106; New Haven, Connecticut 06504.

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